

CLAIMS

1. Method for the prevention or reduction of haze in a beverage wherein a proline-specific and/or hydroxy-prolyl-specific and/or an alanine-specific
5 endoprotease is added to the beverage.
2. Method according to claim 1 wherein the endoproteases are in an essentially isolated form
3. Method according to any one of claims 1 - 2 wherein an endoprotease is added having a maximum specific activity at a pH which corresponds to the
10 pH of the beverage it is added to.
4. Method according to any one of claims 1 - 3 wherein the beverage contains proteins
5. Method according to any one of claims 1 - 4 wherein the beverage contains polyphenols
- 15 6. Method according to any one of claims 1 - 5, wherein the beverage has a pH value at or below 7.0, 6.0, 5.5, 5.0, 4.5, 4.0, 3.5 or 3.0.
7. A method according to any one of claims 4 - 6 wherein at least 150 milli-units of specific endoprotease activity, as determined by an activity measurements using Z-Gly-Pro-pNA, Z-Gly-hydroxy-pro-pNA or Z-Gly-Ala-pNA as a
20 substrate, is added to the beverage per gram protein in the beverage.
8. A method according to any one of claims 4 - 6 wherein at least 500 milli-units of specific endoprotease activity, as determined by an activity measurements using Z-Gly-Pro-pNA, Z-Gly-hydroxy-pro-pNA or Z-Gly-Ala-pNA as a substrate, is added to the beverage per gram protein in the beverage.
- 25 9. A method according to any one of claims 4 - 6 wherein at least 1 unit of specific endoprotease activity, as determined by an activity measurements using Z-Gly-Pro-pNA, Z-Gly-hydroxy-pro-pNA or Z-Gly-Ala-pNA as a substrate, is added to the beverage per gram protein in the beverage.
10. Method according to any one of claims 1 - 9 wherein the beverage is a liquid
30 used in the production of beer.
11. Method according to any one of claims 1 - 9 wherein the beverage is a liquid

used in the production of wine.

12. Method according to any one of claims 1 - 9 wherein the beverage is a liquid used in the production of fruit juice.

5 13. Method according to claim 10 wherein a prolyl-specific endoprotease is added to a mash.

14. Method according to claim 10 wherein a prolyl-specific endoprotease is added to a beer before haze is formed

15. Method according to claim 10 wherein a prolyl-specific endoprotease is added to a fermented beer after haze has been formed.

10 16. Method according to claim 11 wherein a prolyl-specific endoprotease is added to a fermented wine.

17. Method according to any of claims 1 to 16 wherein an auxiliary enzyme is added to the beverage in order to further reduce or prevent haze formation.

15 18. Method according to claim 17 wherein the auxiliary protein is a purified exoprotease or endoprotease.

19. Method according to claims 17 or 18 wherein the exoprotease is a proline-specific carboxypeptidase.

20. Method according to claim 19 wherein the proline specific carboxypeptidase is obtainable from Xanthomonas.

20 21. Method according to claims 17 or 18 wherein the auxiliary endoprotease is a glycine-specific endoprotease and/or an aspartic acid protease.

22. Method according to claim 21 wherein the aspartic protease is Fromase ®

23. An isolated polypeptide having prolyl-specific and/or hydroxyprolyl-specific and/or alanine-specific endoprotease activity with an acidic pH optimum.

25 24. Polypeptide according to claim 23 wherein the pH optimum lies at or around pH 5.5.

25. Use of a specific endoprotease according to any of claims 23 or 24 in the preparation of a beverage

30 26. Use of purified prolyl-specific and/or hydroxyprolyl-specific and/or alanine-specific endoprotease in the preparation of beer, wine or fruit juice.

27. Beverage obtainable by a method according to any one of claims 1 – 22

and/or 25 – 26.

- 28. Beer obtainable by a method according to claim 10.
- 29. Wine obtainable by a method according to claim 11.
- 30. Fruit juice obtainable by a method according to claim 12